ABSTRACT OF THE DISCLOSURE

Fuses for integrated circuits and semiconductor devices, methods for making and using the same, and semiconductor devices containing the same. The semiconductor fuse contains two conductive layers-an overlying and underlying layer-on an insulating substrate. The underlying layer comprises titanium nitride and the overlying layer comprises tungsten silicide. The semiconductor fuse may be fabricated during manufacture of a local interconnect structure containing the same materials. The fuse, which may be used to program redundant circuitry, is blown by electrical current rather than laser beams, thus allowing the fuse width to be smaller than prior art fuses blown by laser beams. The fuse may also be blown by less electrical current than the current required to blow conventional polysilicon fuses having similar dimensions.

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